EFFICACY REVIEW
DUPONT ADVION COCKROACH BAIT ARENA; EPA File Symbol 352-AAI

DATE:	01/12/06
DP BARCODE:	D323679
GLP:	No
CHEMICAL:	Indoxacarb (0.5%)
CHEMICAL NUMBER:	067710
PURPOSE:	Provide efficacy data to support product registration.
MRID:	46684601. Scherer, C. (2005) Product Performance: 0.5% Indoxacarb Bait Station on Cockroaches. Project Number: DUPONT/18183. Unpublished study prepared by Dupont Haskell Laboratory and University Sains Malaysia. 37 p.
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BACKGROUND:

Dupont Advion Cockroach Bait Arena is a ready-to-use insecticide intended for the control of cockroaches in or around residential, institutional, commercial, and industrial areas. Bait stations are to be placed in "out of the way" areas that are frequented by cockroaches, *e.g.*, under appliances and sinks. The recommended application rate is three to ten stations "per 100 linear feet of horizontal surface". Outside, bait stations should be placed adjacent to buildings.

DATA REVIEW:

46684601. Scherer, C. (2005) Product Performance: 0.5% Indoxacarb Bait Station on Cockroaches. Project Number: DUPONT/18183. Unpublished study prepared by Dupont Haskell Laboratory and University Sains Malaysia. 37 p.

German Cockroaches

The experimental design consisted of forty German cockroaches, *Blattella germanica*, being placed within a test arena. The experimental population consisted of ten adult males, ten adult females, and twenty immature cockroaches. All roaches were

starved for 24 hours prior to the start of the evaluation. Upon completion of an acclimation period, all test arenas were introduced with both rat chow (alternative food source) and a bait station. Stations tested included: Advion (0.5% indoxacarb), Maxforce fipronil (0.03% fipronil), and Maxforce hydramethylnon (2.00% hydramethylnon). Observations on mortality were recorded up to a maximum of 14 days. A minimum of four replicates were completed for each treatment.

Results:

Advion bait stations demonstrated comparable efficacy to both Maxforce fipronil and Maxforce hydramethylnon stations, having achieved complete (100%) mortality of cockroaches at 14 days post-treatment.

American Cockroaches

The experimental design consisted of thirty American cockroaches, *Periplaneta americana*, being placed within a test arena. The experimental population consisted of ten adult males, ten adult females, and ten immature cockroaches. All roaches were starved for 24 hours prior to the start of the evaluation. Upon completion of an acclimation period, all test arenas were introduced with both rat chow (alternative food source) and a bait station. Stations tested included: Advion (0.5% indoxacarb), Maxforce fipronil (0.03% fipronil), and Maxforce hydramethylnon (2.00% hydramethylnon). Observations on mortality were recorded up to a maximum of 14 days. A minimum of three to four replicates were completed for each treatment.

Results:

Table 1. Efficacy of Bait Stations Against the American Cockroach

Bait Station	Sex / Life Stages	Percent Mortality (14 days)
Advion	Male	78%
	Female	85%
	Immature	93%
Maxforce Fipronil	Male	97%
	Female	90%
	Immature	93%
Maxforce Hydramethylnon	Male	45%
	Female	20%
	Immature	18%

The percent mortality 14 days after treatment for American cockroaches introduced to an Advion bait station ranged from 78% (adult males) to 93% (immatures).

RECOMMENDATIONS:

The submitted laboratory data supports the use of Dupont Advion Cockroach Bait Arena to control cockroaches in or around residential, institutional, commercial, and industrial areas.